PS Claim 56; Page 141-142; 218pp; English.
XX
CC The present invention relates to human kinases (PKIN) and polynucleotides
CC encoding such proteins. PKIN sequences of the invention are useful for
CC diagnosing, treating or preventing disorders associated with aberrant
CC expression of PKIN, particularly immune system disorders (e.g. acquired
CC immune deficiency syndrome (AIDS), thymic hypoplasia, Crohn's disease,
CC anaemia, asthma), neurological disorders (e.g. epilepsy, Charcot-Marie-
CC Tooth disease or seizures), cell proliferative disorders (e.g. cancers
CC such as adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma, sarcoma),
CC and developmental disorders (e.g. Down's syndrome). They are also used
CC in gene therapy and protein therapy. The present sequence is human
CC PKIN-1 protein.
XX
SQ Sequence 424 AA;

Query Match 100.0%; Score 1215; DB 23; Length 424;
Best Local Similarity 100.0%; Pred. No. 1.9e-125;
Matches 231; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60
Db 79 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 138

Qy 61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
Db 139 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 198

Qy 121 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180
Db 199 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 258

Qy 181 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEV 231
Db 259 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEV 309

RESULT 5
AAU10023
ID AAU10023 standard; Protein; 424 AA.
XX
AC AAU10023;
XX
DT 08-MAY-2002 (first entry)
XX
DE Human protein kinase N protein.
XX
KW Human; protein kinase N; cytostatic; neuroprotective; cancer;
KW gene therapy; antigen; antibody; neurodegenerative disease;
KW inflammation; arteriosclerosis; psoriasis; growth disorder;
KW chromosome 16; papilloma virus infection; ALzheimer's disease.
XX
OS Homo sapiens.
XX
PN WO200188148-A2.
XX
PD 22-NOV-2001.
XX
PF 17-MAY-2001; 2001WO-US15776.
XX
PR 17-MAY-2000; 2000US-205228P.
PR 12-DEC-2000; 2000US-0734032.
PR 26-MAR-2001; 2001US-0816094.
XX
PA (APPL-) APPLERA CORP.
XX
PI Wei M, Chandramouliswara I, Ye J, Ketchum KA, Di Francesco V;
PI Beasley EM;
XX
DR WPI; 2002-089857/12.
DR N-PSDB; AAS17862, AAS17863.
XX
PT Human kinase protein and polynucleotides encoding them, useful for
PT identifying modulators of kinase polypeptides and for treating,
PT preventing, and/or diagnosing neurodegenerative diseases and cancer -
XX
PS Claim 1; Figure 2; 65pp; English.
XX
CC This sequence represents a human protein kinase N of the invention.
CC The invention comprises nucleotide and protein sequences of an isolated
CC protein which is related to the PKN kinase subfamily. The protein
CC kinase N gene is located on chromosome 16. The protein may have
CC cytostatic and neuroprotective and can be used in gene therapy
CC possibly as a human kinase protein expression or activity modulator.
CC The nucleic acids and polypeptides of the invention may be used in the
CC prevention, diagnosis and treatment of diseases associated with
CC inappropriate kinase expression. The nucleic acids (or vectors
CC containing them) and the kinase may be used to treat disorders
CC associated with decreased expression, either by rectifying mutations or
CC deletions in a patient's genome that affect the activity of the enzyme
CC by expressing inactive proteins or to supplement the patients own
CC production of kinases. Additionally, the nucleic acids may be used to
CC produce the kinase, by inserting the nucleic acids into a host cell and
CC culturing the cell to express the protein. The nucleic acid and its
CC complementary sequences may also be used as DNA probes in diagnostic
CC assays to detect and quantitate the presence similar nucleic acids in
CC samples, and therefore which patients may be in need of restorative
CC therapy. The polypeptides may also be used as antigens in the
CC production of antibodies against the kinase and in assays to identify
CC modulators of kinase expression and activity. The anti-kinase
CC antibodies and antagonists may also be used to down regulate expression
CC and activity. The anti-kinase antibodies may also be used as diagnostic
CC agents for detecting the presence of kinase polypeptides in samples
CC (e.g. by enzyme linked immunosorbant assay (ELISA)). Disorders that may
CC be prevented, diagnosed and/or treated by the above methods include, for
CC example neurodegenerative diseases, inflammation, arteriosclerosis
CC psoriasis, cancer, papilloma virus infection, Alzheimer's disease
CC and growth disorders.
XX
SQ Sequence 424 AA;

Query Match 100.0%; Score 1215; DB 23; Length 424;
Best Local Similarity 100.0%; Pred. No. 1.9e-125;
Matches 231; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60
Db 79 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 138

Qy 61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
Db 139 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 198

Qy 121 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180
Db 199 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 258

Qy 181 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEV 231
Db 259 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEV 309

RESULT 6
AAY83904
ID AAY83904 standard; Protein; 417 AA.
XX
AC AAY83904;
XX
DT 05-JUL-2000 (first entry)
XX
DE Rat PKS protein.
XX
KW PKS protein; Wistar rat; cerebral nervous system disease;
KW neurological function-related disease.
XX
OS Rattus sp.

XX
PN JP2000060571-A.
XX
PD 29-FEB-2000.
XX
PF 20-AUG-1998; 98JP-0249064.
XX
PR 20-AUG-1998; 98JP-0249064.
XX
PA (MITU) MITSUBISHI CHEM CORP.
XX
DR WPI; 2000-249682/22.
DR N-PSDB; AAA09825.
XX
PT Novel mammalian peptide and a polynucleotide encoding it - useful for
PT treatment and diagnosis of cerebral nervous system diseases and
PT neurological function-related diseases
XX
PS Claim 1; Page 10-11; 15pp; Japanese.
XX
CC This sequence represents the PKS protein from Wistar rats. The peptide
CC is useful for treatment and diagnosis of cerebral nervous system diseases
CC and neurological function-related diseases.
XX
SQ Sequence 417 AA;

Query Match 98.8%; Score 1201; DB 21; Length 417;
Best Local Similarity 98.7%; Pred. No. 6.6e-124;
Matches 228; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

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Qy       1 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60
          ||||||||||||||||||||||||||||||||||||||||||||:|||||||||||||||||
Db      79 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEECYVFAQEYAPAGDLFD 138

Qy      61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
          |||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||
Db     139 IIPPQVGLPEDTVKRCVQQLGLALDFMHSRQLVHRDIKPENVLLFDRECRRVKLADFGMT 198

Qy     121 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180
          |||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||||
Db     199 RRVGCRVKRVSGTIPYTAPEVCQAGRADGFAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 258

Qy     181 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEV 231
          |||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     259 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEV 309
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RESULT 7
AAE21721
ID AAE21721 standard; Protein; 348 AA.
XX
AC AAE21721;
XX
DT 16-JUL-2002 (first entry)
XX
DE Human PKIN-16 protein.
XX
KW Human; kinase; enzyme; PKIN-16 protein; immune system disorder; anaemia;
KW acquired immune deficiency syndrome; thymic hypoplasia; Crohn's disease;
KW asthma; neurological disorder; epilepsy; Charcot-Marie-Tooth disease;
KW AIDS; seizures; cell proliferative disorder; cancer; adenocarcinoma;
KW leukaemia; lymphoma; melanoma; myeloma; sarcoma; developmental disorder;
KW Down's syndrome; gene therapy; protein therapy; cytostatic.
XX
OS Homo sapiens.
XX

FH	Key	Location/Qualifiers
FT	Domain	3..263
FT		/note= "Protein kinase domain"
FT	Domain	62..315
FT		/note= "Eukaryotic protein kinase domain"
FT	Domain	63..267
FT		/note= "Protein kinase domain"
FT	Domain	65..263
FT		/note= "Protein kinase domain"
FT	Domain	68..316
FT		/note= "Protein kinase domain"
FT	Domain	137..150
FT		/note= "Tyrosine kinase catalytic domain"
FT	Domain	173..191
FT		/note= "Tyrosine kinase catalytic domain"
FT	Domain	244..266
FT		/note= "Tyrosine kinase catalytic domain"

XX
PN WO200218557-A2.
XX
PD 07-MAR-2002.
XX
PF 31-AUG-2001; 2001WO-US27219.
XX
PR 31-AUG-2000; 2000US-229873P.
PR 08-SEP-2000; 2000US-231357P.
PR 14-SEP-2000; 2000US-232654P.
PR 22-SEP-2000; 2000US-234902P.
PR 29-SEP-2000; 2000US-236499P.
PR 06-OCT-2000; 2000US-238389P.
PR 13-OCT-2000; 2000US-240542P.
XX
PA (INCY-) INCYTE GENOMICS INC.
XX
PI Bandman O, Nguyen DB, Walia NK, Hafalia AJA, Yao MG, Gandhi AR;
PI Gururajan R, Ding L, Patterson C, Yue H, Baughn MR, Tribouley CM;
PI Thornton M, Elliott VS, Lu Y, Ison CH, Au-Young J, Tang YT;
PI Azimzai Y, Burrill JD, Marcus GA, Zingler KA, Lu DAM, Lal PG;
PI Ramkumar J, Warren BA, Kearney L, Policky JL, Thangavelu K;
PI Burford N;
XX
DR WPI; 2002-329769/36.
DR N-PSDB; AAD34313.
XX
PT New human kinases, useful for diagnosing, treating or preventing immune
PT system disorders (e.g. Crohn's disease), neurological disorders (e.g.
PT epilepsy), or cell proliferative disorders (e.g. cancers such as
PT leukemia or lymphoma) -
XX
PS Claim 71; Page 179-180; 218pp; English.
XX
CC The present invention relates to human kinases (PKIN) and polynucleotides
CC encoding such proteins. PKIN sequences of the invention are useful for
CC diagnosing, treating or preventing disorders associated with aberrant
CC expression of PKIN, particularly immune system disorders (e.g. acquired
CC immune deficiency syndrome (AIDS), thymic hypoplasia, Crohn's disease,
CC anaemia, asthma), neurological disorders (e.g. epilepsy, Charcot-Marie-
CC Tooth disease or seizures), cell proliferative disorders (e.g. cancers
CC such as adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma, sarcoma),
CC and developmental disorders (e.g. Down's syndrome). They are also used
CC in gene therapy and protein therapy. The present sequence is human
CC PKIN-16 protein.
XX
SQ Sequence 348 AA;

Query Match 36.7%; Score 446.5; DB 23; Length 348;
Best Local Similarity 42.1%; Pred. No. 1.1e-40;
Matches 96; Conservative 33; Mismatches 96; Indels 3; Gaps 3;

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            :||| : | :| |: || |  :  || :   |:  : :  |:   | | |    |||
Db      88 LALKQLPKPRTSLRGFLYEFCVGLSLGAHSAIVTAYGIGIESAHSYSFLTEPVLHGDLMA 147

Qy      61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
             | |:||||:  | ||  ||  ||:::| | ||:||:||||||: |  ||| || ||| |
Db     148 FIQPKVGLPQPAVHRCAAQLASALEYIHARGLVYRDLKPENVLVCDPACRRFKLTDFGHT 207

Qy     121 RRVGCRVKRVSGTIPYTAPEVC-QAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWE-AA 178
            |  |  ::     |||||||:|      :|| :   :| || |||:||:||| |||:
Db     208 RPRGTLLRLAGPPIPYTAPELCAPPPLPEGLPIQPALDAWALGVLLFCLLTGYFPWDRPL 267
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GenCore version 5.1.4_p5_4578

OM protein - protein search, using sw model

Run on: April 4, 2003, 08:34:45 ; Search time 19 Seconds
(without alignments)
1168.792 Million cell updates/sec

Title: US-09-916-790-2_COPY_1_231
Perfect score: 1215
Sequence: 1 MALKFVNKSKTKLKNFLREV.....RMFQRLLALEPERRGPAKEV 231

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	584.5	48.1	358	1	S71887	serine/threonine-s
2	366.5	30.2	356	2	T34074	hypothetical prote
3	284.5	23.4	527	2	S46155	probable serine/th
4	281	23.1	473	1	S59941	serine/threonine-s
5	281	23.1	512	2	T52633	serine/threonine-s
6	277.5	22.8	713	2	S27966	probable serine/th
7	276	22.7	504	2	T10449	probable serine/th
8	276	22.7	512	1	JC1446	serine/threonine-s
9	274	22.6	511	1	A56009	serine/threonine-s
10	272	22.4	560	2	S51600	phosphorylase kina
11	271	22.3	504	2	T07415	probable serine/th
12	270.5	22.3	774	2	I48609	probable serine/th
13	269.5	22.2	745	2	G01025	serine/threonine p
14	264	21.7	534	2	G88924	protein R02C2.1 [i
15	262.5	21.6	576	2	T41587	probable carbon ca
16	262.5	21.6	1192	2	T18611	probable serine/th
17	262.5	21.6	1246	2	G89287	protein H39E23.1 [
18	262	21.6	460	2	S58882	protein kinase Cds
19	259	21.3	1051	1	JW0051	serine/threonine-s
20	258.5	21.3	513	1	S60304	serine/threonine-s
21	258	21.2	435	2	E84707	probable protein k
22	258	21.2	520	2	G86414	probable protein k
23	256.5	21.1	510	2	T04145	serine/threonine p
24	256.5	21.1	1245	2	D86260	protein T12C24.22
25	255.5	21.0	481	2	I49072	protein kinase - m
26	255.5	21.0	798	2	JC7500	qik protein - chic
27	255	21.0	562	2	T29858	hypothetical prote
28	254.5	20.9	484	2	F88924	protein R02C2.2 [i
29	254.5	20.9	496	2	S33597	protein kinase chk
30	254.5	20.9	513	1	S60303	serine/threonine-s
31	253.5	20.9	288	2	T00862	probable serine/th
32	253	20.8	388	1	A29872	phosphorylase kina
33	251.5	20.7	1398	2	T13741	hypothetical prote
34	251	20.7	1142	2	S59359	GIN4 protein - yea
35	250	20.6	821	1	A39616	protein kinase RAD
36	249.5	20.5	440	2	T14736	probable serine/th
37	249.5	20.5	602	2	S72513	FOG2 protein - yea
38	249.5	20.5	1081	2	S51899	probable protein k
39	248.5	20.5	480	2	A86427	probable serine/th
40	248.5	20.5	502	1	A41361	serine/threonine-s
41	248	20.4	336	2	T21652	hypothetical prote
42	248	20.4	388	1	S00731	phosphorylase kina
43	247.5	20.4	746	2	S62365	SNF1-related prote
44	247	20.3	387	1	KIRBFG	phosphorylase kina
45	247	20.3	552	1	A53621	[hydroxymethylglut

ALIGNMENTS

RESULT 1
S71887
serine/threonine-specific kinase (EC 2.7.1.-), pk9.7 gastrula-specific - African claw
C;Species: Xenopus laevis (African clawed frog)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 16-Jun-2000
C;Accession: S71887
R;Snape, A.M.; Smith, J.C.
EMBO J. 15, 4556-4565, 1996
A;Title: Regulation of embryonic cell division by a Xenopus gastrula-specific protein
A;Reference number: S71887; MUID:97042347; PMID:8887547
A;Accession: S71887
A;Status: nucleic acid sequence not shown
A;Molecule type: mRNA
A;Residues: 1-358 <SNA>
A;Cross-references: EMBL:X99406; NID:g1480369; PIDN:CAA67783.1; PID:g1480370
C;Genetics:
A;Gene: pk9.7
C;Function:
A;Description: involved in regulation of cell division
C;Superfamily: African clawed frog serine/threonine-specific kinase, gastrula-specifi
C;Keywords: phosphotransferase
F;9-274/Domain: protein kinase homology <KIN>

Query Match 48.1%; Score 584.5; DB 1; Length 358;
Best Local Similarity 48.5%; Pred. No. 3.1e-26;
Matches 113; Conservative 38; Mismatches 79; Indels 3; Gaps 2;

```
Qy       1 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60
           :||||| | :|:   |: |::|: :|| | ||| :   || | ::| || |||| |
Db      37 VALKFVRKDRTRQAAFIHELNISIALSDYPGIIKTYPTYIETVDYFIFTQELAPAGTLHS 96

Qy      61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
           ||  :||:||: |||| |:  |||||||||:|||||:||:|||| |:|| :|| |||
Db      97 IIKTEVGIPEEVVKRCAVQITAALDFMHGRRLVHRDLKPDNVLLMDKECYHIKLCDFGFT 156

Qy     121 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180
           : ||  |  :|  ||| ||:|       | :|  :|:|:|||:|:|  ||| |||| | |
Db     157 QSVGSLVPSMSHIIPYMPPELCNLKPNQLLVLDQSMDIWSFGILLFVALTGYFPWEEAVG 216

Qy     181 ADAFFEEFVRWQRGR--LPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEV 231
           :  :: || ||  |  :|  |  | ||| |: || :||: :|  | |  |
Db     217 HNQKYQMFVHWQNNRNYVPA-PILWNRFTQEAMAMFFKLLSQKPSSRSPPDTV 268
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RESULT 2
T34074
hypothetical protein C01C4.3 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision 29-Oct-1999 #text_change 17-Mar-2000
C;Accession: T34074
R;Nelson, J.
submitted to the EMBL Data Library, November 1995

```
Qy     241 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     241 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300

Qy     301 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 346
           |||||||||||||||||||||||||||||||||||||||||||||
Db     301 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 346


RESULT 2
US-09-816-094-2
; Sequence 2, Application US/09816094
; Patent No. US20020064851A1
; GENERAL INFORMATION:
;  APPLICANT: WEI, Ming-Hui et al.
;  TITLE OF INVENTION: ISOLATED HUMAN KINASE PROTEINS, NUCLEIC
;  TITLE OF INVENTION:  ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
;  TITLE OF INVENTION:  THEREOF
;  FILE REFERENCE: CL000536-CIP
;  CURRENT APPLICATION NUMBER: US/09/816,094
;  CURRENT FILING DATE:  2001-03-26
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 424
;   TYPE: PRT
;   ORGANISM: Human
US-09-816-094-2

  Query Match                 100.0%;  Score 1822;  DB 10;  Length 424;
  Best Local Similarity   100.0%;  Pred. No. 5.5e-127;
  Matches  346;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      79 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60

Qy      61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     139 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120

Qy     121 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     199 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180

Qy     181 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 240
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     259 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 240

Qy     241 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     319 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300

Qy     301 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 346
           |||||||||||||||||||||||||||||||||||||||||||||
Db     379 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 424


RESULT 3
US-09-734-032-2
; Sequence 2, Application US/09734032
; Patent No. US20020103116A1
; GENERAL INFORMATION:
;  APPLICANT: WEI et al
;  TITLE OF INVENTION: ISOLATED HUMAN KINASE PROTEINS, NUCLEIC
;  TITLE OF INVENTION:  ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
;  TITLE OF INVENTION:  THEREOF
;  FILE REFERENCE: CL00536
;  CURRENT APPLICATION NUMBER: US/09/734,032
;  CURRENT FILING DATE:  2001-08-16
;  PRIOR APPLICATION NUMBER: 60205228
;  PRIOR FILING DATE: 2000-05-17
;  NUMBER OF SEQ ID NOS: 4
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 424
;   TYPE: PRT
;   ORGANISM: human
US-09-734-032-2

  Query Match                 100.0%;  Score 1822;  DB 10;  Length 424;
  Best Local Similarity   100.0%;  Pred. No. 5.5e-127;
  Matches  346;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      79 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60

Qy      61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     139 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120

Qy     121 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     199 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180

Qy     181 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 240
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     259 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 240

Qy     241 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     319 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300

Qy     301 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 346
           |||||||||||||||||||||||||||||||||||||||||||||
Db     379 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 424


RESULT 4
US-10-016-985-2
; Sequence 2, Application US/10016985
; Patent No. US20020123621A1
; GENERAL INFORMATION:
;  APPLICANT: Walke, D. Wade
;  APPLICANT:  Maricar, Miranda
;  APPLICANT:  Yu, Xuanchuan (Sean)
;  APPLICANT:  Friddle, Carl Johan
;  TITLE OF INVENTION: No. US20020123621A1el Human Kinase and Polynucleotides
;  TITLE OF INVENTION:  Encoding the Same
;  FILE REFERENCE: LEX-0273-USA
;  CURRENT APPLICATION NUMBER: US/10/016,985
;  CURRENT FILING DATE:  2001-12-07
;  PRIOR APPLICATION NUMBER: US 60/251,941
;  PRIOR FILING DATE: 2000-12-07
;  NUMBER OF SEQ ID NOS: 3
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 424
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-016-985-2

  Query Match                 100.0%;  Score 1822;  DB 12;  Length 424;
  Best Local Similarity   100.0%;  Pred. No. 5.5e-127;
  Matches  346;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      79 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60

Qy      61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     139 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120

Qy     121 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     199 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180

Qy     181 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 240
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     259 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 240

Qy     241 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     319 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300

Qy     301 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 346
           |||||||||||||||||||||||||||||||||||||||||||||
Db     379 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 424
```

```
Qy       1 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60
Db      79 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 138
Qy      61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
Db     139 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 198
Qy     121 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180
Db     199 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 258
Qy     181 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 240
Db     259 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 318
Qy     241 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300
Db     319 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGGGSRPAPPAVGSVPLPVP 378
Qy     301 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 346
Db     379 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 424
```

RESULT 6
AAY83904
ID AAY83904 standard; Protein; 417 AA.
XX
AC AAY83904;
XX
DT 05-JUL-2000 (first entry)
XX
DE Rat PKS protein.
XX
KW PKS protein; Wistar rat; cerebral nervous system disease;
KW neurological function-related disease.
XX
OS Rattus sp.
XX
PN JP2000060571-A.
XX
PD 29-FEB-2000.
XX
PF 20-AUG-1998; 98JP-0249064.
XX
PR 20-AUG-1998; 98JP-0249064.
XX
PA (MITU) MITSUBISHI CHEM CORP.
XX
DR WPI; 2000-249682/22.
DR N-PSDB; AAA09825.
XX
PT Novel mammalian peptide and a polynucleotide encoding it - useful for
PT treatment and diagnosis of cerebral nervous system diseases and
PT neurological function-related diseases
XX
PS Claim 1; Page 10-11; 15pp; Japanese.
XX
CC This sequence represents the PKS protein from Wistar rats. The peptide
CC is useful for treatment and diagnosis of cerebral nervous system diseases
CC and neurological function-related diseases.
XX
SQ Sequence 417 AA;

Query Match 93.7%; Score 1706.5; DB 21; Length 417;
Best Local Similarity 95.1%; Pred. No. 1.6e-139;
Matches 329; Conservative 3; Mismatches 7; Indels 7; Gaps 2;

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Qy       1 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEDCYVFAQEYAPAGDLFD 60
Db      79 MALKFVNKSKTKLKNFLREVSITNSLSSSPFIIKVFDVVFETEECYVFAQEYAPAGDLFD 138
Qy      61 IIPPQVGLPEDTVKRCVQQLGLALDFMHGRQLVHRDIKPENVLLFDRECRRVKLADFGMT 120
Db     139 IIPPQVGLPEDTVKRCVQQLGLALDFMHSRQLVHRDIKPENVLLFDRECRRVKLADFGMT 198
Qy     121 RRVGCRVKRVSGTIPYTAPEVCQAGRADGLAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 180
Db     199 RRVGCRVKRVSGTIPYTAPEVCQAGRADGFAVDTGVDVWAFGVLIFCVLTGNFPWEAASG 258
Qy     181 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 240
Db     259 ADAFFEEFVRWQRGRLPGLPSQWRRFTEPALRMFQRLLALEPERRGPAKEVFRFLKHELT 318
Qy     241 SELRRRPSHRARKPPGDRPPAAGPLRLEAPGPLKRTVLTESGSGSRPAPPAVGSVPLPVP 300
Db     319 SELRRRPSHRARKPPGDRLP--GPLRLEAPGPLKRTVLTESGSGSRPSPPSVGPV----- 371
Qy     301 VPVPVPVPVPVPEPGLAPQGPPGRTDGRADKSKGQVVLATAIEICV 346
Db     372 VPVPVPVPVPVPEAGLAPPAPPGRTDGRADKSKGQVVLATAIEICV 417
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RESULT 7
AAU03506
ID AAU03506 standard; Protein; 572 AA.
XX
AC AAU03506;
XX
DT 12-SEP-2001 (first entry)
XX
DE Human protein kinase #6.
XX
KW Human; protein kinase; PTK; STK; cancer; cardiovascular disease;
KW metabolic disorder; immune related disease; neurological disorder;
KW neurodegenerative disorder; inflammatory disorder; infectious disease;
KW reproductive disorder.
XX
OS Homo sapiens.
XX
PN WO200138503-A2.
XX
PD 31-MAY-2001.
XX
PF 22-NOV-2000; 2000WO-US32085.
XX
PR 24-NOV-1999; 99US-0167482.
XX
PA (SUGE-) SUGEN INC.
XX
PI Plowman GD, Whyte D, Manning G, Sudarsanam S, Martinez R;
PI Flanagan P, Clary D;
XX
DR WPI; 2001-343950/36.
DR N-PSDB; AAS06706.
XX
PT Nucleic acids encoding human kinase polypeptides, useful for preventing
PT diagnosing and/or treating e.g. cancer, immune, cardiovascular and
PT neuronal-associated diseases, and microbial infections -
XX
PS Claim 7; Figure 2; 433pp; English.
XX
CC AAU03501-AAU03557 represent novel human protein kinases #1-57. The
CC novel protein kinases have been identified as members of the tyrosine
CC or serine/threonine kinase (PTK and STK) families. The polynucleotides
CC encoding protein kinases and the polypeptides may be used in the
CC prevention, diagnosis and treatment of diseases associated with
CC inappropriate kinase expression. For example, they may be used to treat
CC cancers (especially cancers of haematopoietic origin), cardiovascular
CC disease (e.g. atherosclerosis), metabolic disorders (e.g. diabetes),
CC immune related diseases (e.g. rheumatoid arthritis), neurological
CC disorders (e.g. schizophrenia), neurodegenerative disorders (e.g.
CC Parkinson's disease), inflammatory disorders (e.g. asthma), infectious
CC disease (e.g. HIV) and reproductive disorders (e.g. infertility).

```
Qy     721 TCCGAGCTGCGCCGCCGGCCCTCGCACCGCGCGCGCAAGCCCCCCGGGGACCGCCCGCCC 780
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     994 TCCGAGCTGCGCCGCCGGCCCTCGCACCGCGCGCGCAAGCCCCCCGGGGACCGCCCGCCC 780

Qy     781 GCCGCCGGGCCACTGCGCCTCGAGGCGCCTGGGCCGCTCAAGCGGACGGTGCTGACCGAG 1053
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1054 GCCGCCGGGCCACTGCGCCTCGAGGCGCCTGGGCCGCTCAAGCGGACGGTGCTGACCGAG 840

Qy     841 AGCGGCAGCGGCTCCCGGCCCGCGCCCCCCGCCGTCGGGTCGGTGCCCTTGCCCGTGCCG 1113
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1114 AGCGGCAGCGGCTCCCGGCCCGCGCCCCCCGCCGTCGGGTCGGTGCCCTTGCCCGTGCCG 900

Qy     901 GTGCCGGTGCCAGTGCCCGTGCCGGTGCCTGTGCCCGAGCCCGGCCTAGCTCCCCAGGGG 1173
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1174 GTGCCGGTGCCAGTGCCCGTGCCGGTGCCTGTGCCCGAGCCCGGCCTAGCTCCCCAGGGG 960

Qy     961 CCCCCCGGCCGGACCGACGGCCGCGCGGACAAGAGCAAAGGGCAGGTGGTGCTGGCCACG 1233
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1234 CCCCCCGGCCGGACCGACGGCCGCGCGGACAAGAGCAAAGGGCAGGTGGTGCTGGCCACG 1020

Qy    1021 GCCATCGAGATCTGCGTCTGA 1041
           ||||||||||||||||||||
Db    1294 GCCATCGAGATCTGCGTCTGA 1314
```

RESULT 6
US-09-734-032-1
; Sequence 1, Application US/09734032
; Patent No. US20020103116A1
; GENERAL INFORMATION:
; APPLICANT: WEI et al
; TITLE OF INVENTION: ISOLATED HUMAN KINASE PROTEINS, NUCLEIC
; TITLE OF INVENTION: ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: CL00536
; CURRENT APPLICATION NUMBER: US/09/734,032
; CURRENT FILING DATE: 2001-08-16
; PRIOR APPLICATION NUMBER: 60205228
; PRIOR FILING DATE: 2000-05-17
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 1275
; TYPE: DNA
; ORGANISM: human
US-09-734-032-1

Query Match 99.8%; Score 1039.4; DB 10; Length 1275;
Best Local Similarity 99.9%; Pred. No. 9.4e-189;
Matches 1040; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy       1 ATGGCACTGAAGTTTGTGAACAAGAGCAAAACCAAGCTGAAGAACTTCCTACGGGAGGTG 60
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     235 ATGGCACTGAAGTTTGTGAACAAGAGCAAAACCAAGCTGAAGAACTTCCTACGGGAGGTG 60

Qy      61 AGCATCACCAACAGCCTCTCCTCCAGCCCCTTCATCATCAAGGTCTTTGACGTGGTCTTT 294
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     295 AGCATCACCAACAGCCTCTCCTCCAGCCCCTTCATCATCAAGGTCTTTGACGTGGTCTTT 120

Qy     121 GAGACAGAGGACTGCTACGTCTTTGCCCAGGAGTACGCACCTGCTGGGGACCTGTTTGAC 354
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     355 GAGACAGAGGACTGCTACGTCTTTGCCCAGGAGTACGCACCTGCTGGGGACCTGTTTGAC 180

Qy     181 ATCATCCCTCCCCAGGTGGGGCTCCCTGAGGACACGGTGAAGCGCTGTGTGCAGCAGCTG 414
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     415 ATCATCCCTCCCCAGGTGGGGCTCCCTGAGGACACGGTGAAGCGCTGTGTGCAGCAGCTG 240

Qy     241 GGCCTGGCGCTGGACTTCATGCACGGGCGGCAGCTGGTGCACCGCGACATCAAGCCCGAG 474
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     475 GGCCTGGCGCTGGACTTCATGCACGGGCGGCAGCTGGTGCACCGCGACATCAAGCCCGAG 300

Qy     301 AACGTGCTGCTGTTCGACCGCGAGTGCCGCCGCGTAAAGCTGGCCGACTTCGGCATGACG 534
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     535 AACGTGCTGCTGTTCGACCGCGAGTGCCGCCGCGTAAAGCTGGCCGACTTCGGCATGACG 360

Qy     361 CGCCGCGTGGGCTGCCGCGTCAAGCGCGTGAGCGGCACCATCCCTTACACGGCGCCTGAG 594
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     595 CGCCGCGTGGGCTGCCGCGTCAAGCGCGTGAGCGGCACCATCCCTTACACGGCGCCTGAG 420

Qy     421 GTGTGCCAGGCGGGCCGCGCCGACGGGCTGGCGGTGGACACGGGCGTGGACGTGTGGGCC 654
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     655 GTGTGCCAGGCGGGCCGCGCCGACGGGCTGGCGGTGGACACGGGCGTGGACGTGTGGGCC 480

Qy     481 TTCGGCGTGCTCATCTTCTGCGTGCTCACCGGCAACTTCCCGTGGGAGGCGGCGTCGGGC 714
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     715 TTCGGCGTGCTCATCTTCTGCGTGCTCACCGGCAACTTCCCGTGGGAGGCGGCGTCGGGC 540

Qy     541 GCCGACGCCTTCTTCGAGGAGTTCGTGCGCTGGCAGCGGGGCCGCCTGCCGGGGCTGCCT 774
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     775 GCCGACGCCTTCTTCGAGGAGTTCGTGCGCTGGCAGCGGGGCCGCCTGCCGGGGCTGCCT 600

Qy     601 TCGCAGTGGCGCCGCTTCACCGAGCCCGCGCTGCGCATGTTCCAGCGCTTACTGGCCCTG 834
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     835 TCGCAGTGGCGCCGCTTCACCGAGCCCGCGCTGCGCATGTTCCAGCGCTTACTGGCCCTG 660

Qy     661 GAGCCCGAGCGCCGCGGCCCAGCCAAGGAGGTGTTCCGCTTCCTCAAGCACGAGCTCACG 894
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     895 GAGCCCGAGCGCCGCGGCCCAGCCAAGGAGGTGTTCCGCTTCCTCAAGCACGAGCTCACG 720

Qy     721 TCCGAGCTGCGCCGCCGGCCCTCGCACCGCGCGCGCAAGCCCCCCGGGGACCGCCCGCCC 954
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     955 TCCGAGCTGCGCCGCCGGCCCTCGCACCGCGCGCGCAAGCCCCCCGGGGACCGCCCGCCC 780

Qy     781 GCCGCCGGGCCACTGCGCCTCGAGGCGCCTGGGCCGCTCAAGCGGACGGTGCTGACCGAG 1014
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1015 GCCGCCGGGCCACTGCGCCTCGAGGCGCCTGGGCCGCTCAAGCGGACGGTGCTGACCGAG 840

Qy     841 AGCGGCAGCGGCTCCCGGCCCGCGCCCCCCGCCGTCGGGTCGGTGCCCTTGCCCGTGCCG 1074
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1075 AGCGGCAGCGGCTCCCGGCCCGCGCCCCCCGCCGTCGGGTCGGTGCCCTTGCCCGTGCCG 900

Qy     901 GTGCCGGTGCCAGTGCCCGTGCCGGTGCCTGTGCCCGAGCCCGGCCTAGCTCCCCAGGGG 1134
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1135 GTGCCGGTGCCAGTGCCCGTGCCGGTGCCTGTGCCCGAGCCCGGCCTAGCTCCCCAGGGG 960

Qy     961 CCCCCCGGCCGGACCGACGGCCGCGCGGACAAGAGCAAAGGGCAGGTGGTGCTGGCCACG 1194
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1195 CCCCCCGGCCGGACCGACGGCCGCGCGGACAAGAGCAAAGGGCAGGTGGTGCTGGCCACG 1020

Qy    1021 GCCATCGAGATCTGCGTCTGA 1041
           ||||||||||||||||||||
Db    1255 GCCATCGAGATCTGCGTTTGA 1275
```

RESULT 7
US-09-816-094-3
; Sequence 3, Application US/09816094
; Patent No. US20020064851A1
; GENERAL INFORMATION:
; APPLICANT: WEI, Ming-Hui et al.
; TITLE OF INVENTION: ISOLATED HUMAN KINASE PROTEINS, NUCLEIC
; TITLE OF INVENTION: ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: CL000536-CIP
; CURRENT APPLICATION NUMBER: US/09/816,094
; CURRENT FILING DATE: 2001-03-26
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 7301
; TYPE: DNA
; ORGANISM: Human
US-09-816-094-3

Query Match 81.6%; Score 849.6; DB 10; Length 7301;
Best Local Similarity 99.5%; Pred. No. 9.8e-153;

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Qy    2341 TTTCTTGGGGTCAAACATGCCAACCTCCAAGACCCCATCCTCACGTCTCCCACTTTTCTG 2400
Db    2341 TTTCTTGGGGTCAAACATGCCAACCTCCAAGACCCCATCCTCACGTCTCCCACTTTTCTG 2400

Qy    2401 GCGCTGGAGTGTGCAGGGCGTAGGACCTGCATGTGTGGGTGTGAGAATGGGGGCCGGTGG 2460
Db    2401 GCGCTGGAGTGTGCAGGGCGTAGGACCTGCATGTGTGGGTGTGAGAATGGGGGCCGGTGG 2460

Qy    2461 ACACCAGGGGGCGAGTGTGTGACTAGGTGTGTGTGCACATGTGTAGGGTGCAGACGCATG 2520
Db    2461 ACACCAGGGGGCGAGTGTGTGACTAGGTGTGTGTGCACATGTGTAGGGTGCAGACGCATG 2520

Qy    2521 GGTGCCATCCTTTGCNTTCAATGACTGTGCGTCCAGACCCCAAAAAAGCGGCCCCCCCCAC 2580
Db    2521 GGTGCCATCCTTTGCNTTCAATGACTGTGCGTCCAGACCCCAAAAAAGCGGCCCCCCCCAC 2580

Qy    2581 CACACCCTGNTCCTCCCAGGCAGCTGTCCCAGGGCGCCCAGGCCTGCCTTGCACCACAGC 2640
Db    2581 CACACCCTGNTCCTCCCAGGCAGCTGTCCCAGGGCGCCCAGGCCTGCCTTGCACCACAGC 2640

Qy    2641 CCTCAGGAAATCCGGCAAGGAGGCCCCTGCAGGTTGGTTCANGCCCAGGTAGCAAAACAG 2700
Db    2641 CCTCAGGAAATCCGGCAAGGAGGCCCCTGCAGGTTGGTTCANGCCCAGGTAGCAAAACAG 2700

Qy    2701 AGACAACAGCAGCCCCGCCTGACCCCCTGCCCCTNTCTGTGGAGGCCCGGGACCCCCGCA 2760
Db    2701 AGACAACAGCAGCCCCGCCTGACCCCCTGCCCCTNTCTGTGGAGGCCCGGGACCCCCGCA 2760

Qy    2761 ATAAGCACCACATGGGTGAGGCTGTCCCTGTCAGGGNCCCCTGCCAGGGTCCCTCCTGGG 2820
Db    2761 ATAAGCACCACATGGGTGAGGCTGTCCCTGTCAGGGNCCCCTGCCAGGGTCCCTCCTGGG 2820

Qy    2821 GTTCTGGGCCATTTGAGGGGCTCTTTGATGGGCCAGGCCNGCCAGAGTGAACTCCGAGCA 2880
Db    2821 GTTCTGGGCCATTTGAGGGGCTCTTTGATGGGCCAGGCCNGCCAGAGTGAACTCCGAGCA 2880

Qy    2881 CTTTCTGGCTGGT 2893
Db    2881 CTTTCTGGCTGGT 2893
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RESULT 2
US-09-816-094-3
; Sequence 3, Application US/09816094
; Patent No. US20020064851A1
; GENERAL INFORMATION:
; APPLICANT: WEI, Ming-Hui et al.
; TITLE OF INVENTION: ISOLATED HUMAN KINASE PROTEINS, NUCLEIC
; TITLE OF INVENTION: ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: CL000536-CIP
; CURRENT APPLICATION NUMBER: US/09/816,094
; CURRENT FILING DATE: 2001-03-26
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 7301
; TYPE: DNA
; ORGANISM: Human
US-09-816-094-3

Query Match 81.6%; Score 2359.4; DB 10; Length 7301;
Best Local Similarity 98.9%; Pred. No. 0;
Matches 2412; Conservative 2; Mismatches 19; Indels 6; Gaps 4;

```
Qy     459 CCCTCCCCAGGTGGGGCTCCCTGAGGACACGGTGAAGCGCTGTGTGCAGCAGCTGGGCCT 518
Db    3448 CCGCCCGCAGGTGGGGCTCCCTGAGGACACGGTGAAGCGCTGTGTGCAGCAGCTGGGCCT 518

Qy     519 GGCGCTGGACTTCATGCACGGGCGGCAGCTGGTGCACCGCGACATCAAGCCCGAGAACGT 578
Db    3508 GGCGCTGGACTTCATGCACGGGCGGCAGCTGGTGCACCGCGACATCAAGCCCGAGAACGT 3567

Qy     579 GCTGCTGTTCGACCGCGAGTGCCGCCGCGTAAAGCTGGCCGACTTCGGCATGACGCGCCG 638
Db    3568 GCTGCTGTTCGACCGCGAGTGCCGCCGCGTAAAGCTGGCCGACTTCGGCATGACGCGCCG 638

Qy     639 CGTGGGCTGCCGCGTCAAGCGCGTGAGCGGCACCATCCCTTACACGGCGCCTGAGGTGTG 698
Db    3628 CGTGGGCTGCCGCGTCAAGCGCGTGAGCGGCACCATCCCTTACACGGCGCCTGAGGTGTG 698

Qy     699 CCAGGCGGGCCGCGCCGACGGGCTGGCGGTGGACACGGGCGTGGACGTGTGGGCCTTCGG 758
Db    3688 CCAGGCGGGCCGCGCCGACGGGCTGGCGGTGGACACGGGCGTGGACGTGTGGGCCTTCGG 758

Qy     759 CGTGCTCATCTTCTGCGTGCTCACCGGCAACTTCCCGTGGGAGGCGGCGTCGGGCGCCGA 818
Db    3748 CGTGCTCATCTTCTGCGTGCTCACCGGCAACTTCCCGTGGGAGGCGGCGTCGGGCGCCGA 818

Qy     819 CGCCTTCTTCGAGGAGTTCGTGCGCTGGCAGCGGGGCCGCCTGCCGGGGCTGCCTTCGCA 878
Db    3808 CGCCTTCTTCGAGGAGTTCGTGCGCTGGCAGCGGGGCCGCCTGCCGGGGCTGCCTTCGCA 878

Qy     879 GTGGCGCCGCTTCACCGAGCCCGCGCTGCGCATGTTCCAGCGCTTACTGGCCCTGGAGCC 938
Db    3868 GTGGCGCCGCTTCACCGAGCCCGCGCTGCGCATGTTCCAGCGCTTACTGGCCCTGGAGCC 938

Qy     939 CGAGCGCCGCGGCCCAGCCAAGGAGGTGTTCCGCTTCCTCAAGCACGAGCTCACGTCCGA 998
Db    3928 CGAGCGCCGCGGCCCAGCCAAGGAGGTGTTCCGCTTCCTCAAGCACGAGCTCACGTCCGA 998

Qy     999 GCTGCGCCGCCGGCCCTCGCACCGCGCGCGCAAGCCCCCCGGGGACCGCCCGCCCGCCGC 1058
Db    3988 GCTGCGCCGCCGGCCCTCGCACCGCGCGCGCAAGCCCCCCGGGGACCGCCCGCCCGCCGC 1058

Qy    1059 CGGGCCACTGCGCCTCGAGGCGCCTGGGCCGCTCAAGCGGACGGTGCTGACCGAGAGCGG 1118
Db    4048 CGGGCCACTGCGCCTCGAGGCGCCTGGGCCGCTCAAGCGGACGGTGCTGACCGAGAGCGG 1118

Qy    1119 CAGCGGCTCCCGGCCCGCGCCCCCCGCCGTCGGGTCGGTGCCCTTGCCCGTGCCGGTGCC 1178
Db    4108 CAGCGGCTCCCGGCCCGCGCCCCCCGCCGTCGGGTCGGTGCCCTTGCCCGTGCCGGTGCC 1178

Qy    1179 GGTGCCAGTGCCCGTGCCGGTGCCTGTGCCCGAGCCCGGCCTAGCTCCCCAGGGGCCCCC 1238
Db    4168 GGTGCCAGTGCCCGTGCCGGTGCCTGTGCCCGAGCCCGGCCTAGCTCCCCAGGGGCCCCC 1238

Qy    1239 CGGCCGGACCGACGGCCGCGCCGGACAAGAGCAAAGGGCAGGTGGTGCTGGCCACGGCCAT 1298
Db    4228 CGGCCGGACCGACGGCCGCGCGGACAAGAGCAAAGGGCAGGTGGTGCTGGCCACGGCCAT 1298

Qy    1299 CGAGATCTGCGTCTGAGTCGCCTCCGCCGCCCTCGGACCCGGGAGCAGCCCGGGCCCGCC 1358
Db    4288 CGAGATCTGCGTTTGAGTCGCCTCCGCCGCCCTCGGACCCGGGAGCAGCCCGGGCCCGCC 1358

Qy    1359 CCGAGCC--GGTGCCCGGTGCGGCGGTAGGGAATGGAGCCACCTCGCCGCGGGGCAGGGG 1416
Db    4348 CCGAGCCCGGTGCCCCGGTGCGGCGGTAGGGAATGGAGCCACCTCGCCGCGGGGCAGGGG 1416

Qy    1417 GCGCAGCGGTAGACTAGGCAGGACGCGGCCCGGCACCTGGTCCGTCCCCGGCGGGCTGGT 1476
Db    4408 GCGCAGCGGTAGACTAGGCAGGACGCGGCCCGGCACCTGGTCCGTCCCCGGCGGGCTGGT 1476

Qy    1477 GAGGGGGCCACCAAAGACCCCTAGCGCGGCCTGGTGAGCGGGGGCTTGGCCCAGAGGAGC 1536
Db    4468 GAGGGGGCCACCAAAGACCCCTAGCGCGGCCTGGTGAGCGGGGGCTTGGCCCAGAGGAGC 1536

Qy    1537 CAAGCCGCACAGACCCGAGAATTCGGAGGCCACCACACAACACACACACACACACATACA 1596
Db    4528 CAAGCCGCACAGACCCGAGAATTCGGAGGCCACCACACAACACACACACACACACATACA 1596

Qy    1597 CACACACACACACACGCCAGGAGCAAGGGAGCTTTCGGGCCACACTCCCAGACGCCTC 1656
Db    4588 CACACACACACACACGCCAGGAGCAAGGGAGCTTTCGGGCCACACTCCCAGACGCCTC 4647
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Qy   1657 CCTGAGCCCTGGAACCCGGACTCGTTGCTCCTGGCCTTCCATACCCCCTGGCAGATCATC 1716
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Db   4648 CCTGAGCCCTGGAACCCGGACTCGTTGCTCCTGGCCTTCCATACCCCCTGGCAGATCATC 4707

Qy   1717 CTGCGGTCCCACCCCAGATCCCCTCCTCCTCGCCATCCCATTCTGCCCCCTCCCCACCCT 1776
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Qy   1777 GGGTACAGAAAGGGACTGAAGTGTTGGGCAGAGAGGGGGCTTAAGGCCCCTGGGCACAGG 1836
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   4768 GGGTACAGAAAGGGACTGAAGTGTTGGGCAGAGAGGGGGCTTAAGGCCCCTGGGCACAGG 4827

Qy   1837 CTGGGATCAGGGCAGTGAGCGAAGGGCAGCTGTGTCCTGCCCTTCCTTCTGGAGGCTGGA 1896
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Qy   1897 GGGGAGAGGCCAAGCCCTTGGAAAATGTAGCAAATGTCTGGRWKGTCGCATAAGTGCGTG 1956
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Db   4888 GGGGAGAGGCCAAGCCCTTGGAAAATGTAGCAAATGTCTGG-ATGTCGCATAAGTGCGTG 4946

Qy   1957 TATGTGCGGGACAGGCCCCGAGAAGCTAGTGACTCCTGCACACCCCCATTGCACAAATGA 2016
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Qy   2017 AATCACAGCCCAGGAGGGAGGGTAGCTTGGCACTGGCTGAGAAATAGAGCTCTCTCCCCG 2076
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Qy   2077 CCCCTCCCCCTAACCACAAGGGATTGTCCTGACAACTTGTGGGGATAGAAGGGCTCACAG 2136
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Db   5067 CCCCTCCCCCTAACCACAAGGGATTGTCCTGACAACTTGTGGGGATAGAAGGGCTCACAG 5126

Qy   2137 GGCAGGGGTCTCAGCTGCCCCCATCCTTAGGGCAGGGGAGTTAGTGTGGAGCCGAGAGCA 2196
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Db   5187 GGTCCCAGCTCCCCCTGCCAGCCGCACTGTCCCAGGCCCAGGGACCTCTGCCGGGTCCTC 5246

Qy   2257 CCAGCCCTTGCCACACAGCCTAGACGTAGTAGCCTGGGCTTCCAGCAGGTGGCGAGCTGG 2316
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Db   5247 CCAGCCCTTGCCACACAGCCTAGACGTAGTAGCCTGGGCTTCCAGCAGGTGGCGAGCTGG 5306

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Db   5307 TTCGTGCTGGAAATTTCTCCTGGGTTTCTTGGGGTCAAACATGCCAACCTCCAAGACCCC 5366

Qy   2377 ATCCTCACGTCTCCCACTTTTCTGGCGCTGGAGTGTGCAGGGCGTAGGACCTGCATGTGT 2436
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   5367 ATCCTCACGTCTCCCACTTTTCTGGCGCTGGAGTGTGCAGGGCGTAGGACCTGCATGTGT 5426

Qy   2437 GGGTGTGAGAATGGGGGCCGGTGGACACCAGGGGGCGAGTGTGTGACTAGGTGTGTGTGC 2496
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Db   5427 GGGTGTGAGAATGGGGG-CGGTGGACACCAGGGGGCGAGTGTGTGACTAGGTGTGTGTGC 5485

Qy   2497 ACATGTGTAGGGTGCAGACGCATGGGTGCCATCCTTTGCNTTCAATGACTGTGCGTCCAG 2556
          ||||||||||||||||||||||||||||||||||||||||||||||||| |||| |||||||||||||||
Db   5486 ACATGTGTAGGGTGCAGACGCATGGGTGCCATCCTTTGCGTTCAGTGACTGTGCGTCCAG 5545

Qy   2557 ACCCCAAAAAAGCGGCCCCCCCACCACACCCTGNTCCTCCCAGGCAGCTGTCCCAGGGCG 2616
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Db   5546 ACCCCTCACCAGCGGCCCCCCCACCACACCCTGGTCCTCCCAGGCAGCTGTCCCAGGGCG 2605

Qy   2617 CCCAGGCCTGCCTTGCACCACAGCCCTCAGGAAATCCGGCAAGGAGGCCCCTGCAGGTTG 2676
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Qy   2677 GTTCANG--CCCAGGTAGCAAAACAGAGACAACAGCAGCCCCGCCTGACCCCCTGCCCCT 2734
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Db   5666 GTTCAGGCCCCCAGGTAGCAAAACAGAGACAACAGCAGCCCCGCCTGACCCCCTGCCCCT 2734

Qy   2735 NTCTGTGGAGGCCCGGGACCCCCGCAATAAGCACCACATGGGTGAGGCTGTCCCTGTCAG 2794
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Qy   2795 GGNCCCCTGCCAGCGTCCCTCCTGGGGTTCTGGGCCATTTGAGGGGCTCTTTGATGGGCC 2854
          || ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   5786 GGTCCCCTGCCAGGGTCCCTCCTGGGGTTCTGGGCCATTTGAGGGGCTCTTTGATGGGCC 2854

Qy   2855 AGGCCNGCCAGAGTGAACTCCGAGCACTTTCTGGCTGGT 2893
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Db   5846 AGGCCGGCCAGAGTGAACTCCGAGCACTTTCTGGCTGGT 5884
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RESULT 3
US-09-734-032-3
; Sequence 3, Application US/09734032
; Patent No. US20020103116A1
; GENERAL INFORMATION:
; APPLICANT: WEI et al
; TITLE OF INVENTION: ISOLATED HUMAN KINASE PROTEINS, NUCLEIC
; TITLE OF INVENTION: ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: CL00536
; CURRENT APPLICATION NUMBER: US/09/734,032
; CURRENT FILING DATE: 2001-08-16
; PRIOR APPLICATION NUMBER: 60205228
; PRIOR FILING DATE: 2000-05-17
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 7301
; TYPE: DNA
; ORGANISM: human
US-09-734-032-3

Query Match 81.6%; Score 2359.4; DB 10; Length 7301;
Best Local Similarity 98.9%; Pred. No. 0;
Matches 2412; Conservative 2; Mismatches 19; Indels 6; Gaps 4;

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Qy    459 CCCTCCCCAGGTGGGGCTCCCTGAGGACACGGTGAAGCGCTGTGTGCAGCAGCTGGGCCT 518
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Db   3448 CCGCCCGCAGGTGGGGCTCCCTGAGGACACGGTGAAGCGCTGTGTGCAGCAGCTGGGCCT 518

Qy    519 GGCGCTGGACTTCATGCACGGGCGGCAGCTGGTGCACCGCGACATCAAGCCCGAGAACGT 3507
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Db   3568 GCTGCTGTTCGACCGCGAGTGCCGCCGCGTAAAGCTGGCCGACTTCGGCATGACGCGCCG 638

Qy    639 CGTGGGCTGCCGCGTCAAGCGCGTGAGCGGCACCATCCCTTACACGGCGCCTGAGGTGTG 3627
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Db   3628 CGTGGGCTGCCGCGTCAAGCGCGTGAGCGGCACCATCCCTTACACGGCGCCTGAGGTGTG 698

Qy    699 CCAGGCGGGGCCGCGCCGACGGGCTGGCGGTGGACACGGGCGTGGACGTGTGGGCCTTCGG 3687
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Qy    759 CGTGCTCATCTTCTGCGTGCTCACCGGCAACTTCCCGTGGGAGGCGGCGTCGGGCGCCGA 3747
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Db   3748 CGTGCTCATCTTCTGCGTGCTCACCGGCAACTTCCCGTGGGAGGCGGCGTCGGGCGCCGA 818

Qy    819 CGCCTTCTTCGAGGAGTTCGTGCGCTGGCAGCGGGGCCGCCTGCCGGGGCTGCCTTCGCA 3807
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Db   3808 CGCCTTCTTCGAGGAGTTCGTGCGCTGGCAGCGGGGCCGCCTGCCGGGGCTGCCTTCGCA 878

Qy    879 GTGGCGCCGCTTCACCGAGCCCGCGCTGCGCATGTTCCAGCGCTTACTGGCCCTGGAGCC 3867
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Qy    939 CGAGCGCCGCGGCCCAGCCAAGGAGGTGTTCCGCTTCCTCAAGCACGAGCTCACGTCCGA 3927
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Db   3928 CGAGCGCCGCGGCCCAGCCAAGGAGGTGTTCCGCTTCCTCAAGCACGAGCTCACGTCCGA 998

Qy    459 CCCTCCCCAGGTGGGGCTCCCTGAGGACACGGTGAAGCGCTGTGTGCAGCAGCTGGGCCT 518
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Qy    519 GGCGCTGGACTTCATGCACGGGCGGCAGCTGGTGCACCGCGACATCAAGCCCGAGAACGT 3507
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Db   3508 GGCGCTGGACTTCATGCACGGGCGGCAGCTGGTGCACCGCGACATCAAGCCCGAGAACGT 578

Qy    579 GCTGCTGTTCGACCGCGAGTGCCGCCGCGTAAAGCTGGCCGACTTCGGCATGACGCGCCG 3567
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Db   3568 GCTGCTGTTCGACCGCGAGTGCCGCCGCGTAAAGCTGGCCGACTTCGGCATGACGCGCCG 638

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Db   3628 CGTGGGCTGCCGCGTCAAGCGCGTGAGCGGCACCATCCCTTACACGGCGCCTGAGGTGTG 698

Qy    699 CCAGGCGGGGCCGCGCCGACGGGCTGGCGGTGGACACGGGCGTGGACGTGTGGGCCTTCGG 3687
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Db   3688 CCAGGCGGGCCGCGCCGACGGGCTGGCGGTGGACACGGGCGTGGACGTGTGGGCCTTCGG 758

Qy    759 CGTGCTCATCTTCTGCGTGCTCACCGGCAACTTCCCGTGGGAGGCGGCGTCGGGCGCCGA 3747
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Db   3748 CGTGCTCATCTTCTGCGTGCTCACCGGCAACTTCCCGTGGGAGGCGGCGTCGGGCGCCGA 818

Qy    819 CGCCTTCTTCGAGGAGTTCGTGCGCTGGCAGCGGGGCCGCCTGCCGGGGCTGCCTTCGCA 3807
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Db   3808 CGCCTTCTTCGAGGAGTTCGTGCGCTGGCAGCGGGGCCGCCTGCCGGGGCTGCCTTCGCA 878

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